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10/642,480	08/18/2003	Nobuyuki Enomoto	MA-582-US	3814

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EXAMINER
TSEGAYE, SABA

ART UNIT	PAPER NUMBER
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 February 2009</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-84</u> is/are pending in the application.

    4a) Of the above claim(s) <u>4-10,15-30,34-40,45-57,60,63-71,79 and 84</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3, 11-14, 31-33, 41-44, 58, 59, 61, 62, 72-78 and 80-83</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This Office Action is in response to the amendment filed 02/24/09. Claims 1-3, 11-14,

31-33, 41-44, 58, 59, 61, 62, 72-78 and 80-83 are pending. Currently no clams are in condition

for allowance.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

3.   Claims 13 and 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to enable one skilled in the art to which it pertains, or with

which it is most nearly connected, to make and/or use the invention.

The specification does not adequately describe a CPU load or availability status.

4.   Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 13, the phrase "said availability status" lacks antecedent bases.

Claim Rejections - 35 USC § 102

5.   Claims 1, 2, 14, 31, 32, 44, 58, 62, 72, 74-76, 78 and 80-83 are rejected under 35

U.S.C. 102(b) as being anticipated by Aggarwal et al. (US 6,154,463).

Regarding claims 1 and 2, Aggarwal discloses a mode that configures a spanning tree

over a network to which a plurality of nodes are connected, comprising:

means for generating a new spanning tree (proposed Tree(G)) after a network

configuration change (member of join or leave events) while continuing to operate only the

spanning tree (current Tree(G)) that existed before the configuration change (column 14, lines

54-65), and

means for switching the spanning tree to be used for forwarding to said new spanning

tree only after said new spanning tee has been stable (column 15, lines 8-9).

Regarding claims 14, 44, 62 and 78, Aggarwal discloses a node that configures a

spanning tree over a network to which a plurality of nodes are connected (see Figs. 1 and 2)

comprising: generating a spanning tree in which each node in the network serves as a root node

(CSM protocol provides symmetric multicast capability, that is, group communication with any

node of a group, with each node able to be either a sender or a receiver), and forwarding a frame

using a spanning tree in which the destination serves as a root node (column 4, lines 45-65;

summary). Furthermore, Aggarwal discloses that Gatekeeper Router GR(G) computes the

Steiner tree and responsible for subsequent updates of the Steiner tree; any router can be a

GR(G)) (column 9, line 52-column 10, line 12).

Regarding claims 31, 32, 58, 72, Aggarwal discloses a spanning tree configuration method is a network to which a plurality of nodes are connected (see fig. 8), comprising:

generating a new spanning tree (proposed Tree(G)) after a network configuration change (member of join or leave events) while continuing to operate only the spanning tree that existed before the configuration change (column 14, lines 54-65), an switching the spanning tree to be used for forwarding to the new spanning tree only after said new spanning tree has been stable (column 15, lines 8-9).

Regarding claim 74, Aggarwal discloses a spanning tree configuration method in a network to which a plurality of nodes are connected (see Fig. 8), comprising the step of:

making a new node participate in an auxiliary spanning tree only (R5 which is new node [to proposed Tree(G)]), not in an existing spanning tree (current Tree (G) solid line) when adding the new node (R5; column 14, lines 54-61).

Regarding claim 75, Aggarwal discloses a spanning tree configuration method in a network to which a plurality of nodes are connected (see Fig. 8), comprising the step of:

making a removing node (R4, R3) participate in an existing spanning tree only (current Tree(G) solid line), not in an auxiliary spanning tree (not proposed Tree (G)) when removing the node (R4, R3; column 13, lines 12-38; column 14, lines 54-61).

Regarding claim 76, Aggarwal discloses a spanning tree configuration method in a network to which a plurality of nodes are connected (see Fig. 8), comprising the step of:

creating a new tree (proposed tree) after a change using an auxiliary system

(computation of proposed trees (members join and leave) can been done as a background

process), wherein the network continues to use only and existing tree while said new tree is

being created, when a network configuration has changed (column 14, lines 54-61; column 15,

lines 8-9).

Regarding claim 80, Aggarwal discloses a method of forming a logical topology that is

used for signal transmission in a network to which a plurality of nodes are connected comprising:

generating a logical topology after a network configuration change with a signal

transmission being performed using only the logical topology that existed before the network

configuration change (column 14, lines 11-16), and

only after the logical topology after said configuration change has been stable, switching

he logical topology to be used for signal transmission to the logical topology after said

configuration change (column 15, lines 8-9).

Regarding claims 81, 82 and 83, Aggarwal discloses a node comprising: an element

which generates a logical topology after a network configuration change when changing a

configuration of said network to which said element belongs itself (GR(G) [which is any router

can be GR(G)] stores the complete topology of its domain), with the signal transmission being

performed using the logical topology in said network (column 9, line 52-column 10, line 15), and

an element which switches, only after the logical topology after said configuration

change has been stable, the logical topology to be used for signal transmission to the logical

topology after said configuration change (column 15, lines 8-9).

Claim Rejections - 35 USC § 103

6.   Claims 3, 11-13, 33, 41-43, 59, 61, 73 and 77 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Aggarwal et al. as applied to claim 1 above, and further in view of

Sistanizadeh et al. (US 6,963,575 B1) and Larsson et al. (US 2003/0161268).

Regarding claims 3, 11, 33, 41, 59, 61 and 73, Aggarwal discloses all the claim limitation

as stated above. Further, Aggarwal discloses that "the events triggering recomputation depend on

circumstance such as, the number of join and leave events, other changes in the network or

domain topology, and new information relating to traffic patterns, both in the network as well as

within the multicast group G" (column 14, lines 12-16). Aggarwal, however, does not expressly

disclose generating a new spanning tree at the time of a link cost change.

Sistanizadeh teaches that if Spanning-Tree Protocol **costs**/performance parameters

change, the spanning-tree algorithm reconfigures the spanning-tree topology and reestablishes

the link by activating the standby path (column 14, line 65-column 15 line 3).

It would have been obvious to one of ordinary skill in the art the time the invention was

made to use a link cost, such as that suggested by Sistanizadeh, to the reconfiguration system of

Aggarwal in order to provide a flexible and an efficient system.

Regarding claims 12, 42 and 77, Aggarwal in view Sistanizadeh does not expressly

disclose that on of the criterion is a free bandwidth.

Larsson teaches using a link free bandwidth to calculate a cost (0024; 0026; 0029; 0148).

It would have been obvious to one of ordinary skill in the art the time the invention was made to use a free bandwidth as one of criterion, such as that suggested by Larsson, to the system of Aggarwal in view of Sistanizadeh. One would have been motivated to do this because it would make the system more accessible and flexible.

Regarding claims 13 and 43, Aggarwal discloses wherein the availability status is defined as a CPU load (Gatekeeper Application monitors the group size and other group attributed for determining whether a different joining method is appropriate; column 12, lines 37-46).

Response to Arguments

7.   Applicant's arguments with respect to claims 1-3, 11-14, 31-33, 41-44, 58, 59, 61, 62, 72-78 and 80-83 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SABA TSEGAYE whose telephone number is (571)272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saba   Tsegaye
Examiner
Art Unit 2419

/S. T./
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/Hong Cho/
Primary Examiner, Art Unit 2419